

ADDITIONAL NEW SPECIES OF TERULIINE LEAFHOPPERS WITH KEY TO SPECIES (CICADELLIDAE: COELIDIINAE: TERULIINI)

M. W. Nielson¹

ABSTRACT.—Five new species of teruline leafhoppers from the Nearctic and Neotropical regions are described and illustrated. These include *Plapigella jessicae*, *Stalolidia crista*, and *Korsigianus christopheri* from Brazil; *Jikradia infula* from Mexico; and *Onblavia freytagi* from Venezuela. Revised keys to males of species of three genera are also given.

This paper is a continuation of studies of teruline leafhoppers of the New World. Previous work on the genera *Plapigella* Nielson, *Stalolidia* Nielson, *Korsigianus* Nielson, *Jikradia* Nielson, and *Onblavia* Nielson are given elsewhere (Nielson 1979, 1983). Five new species are described and illustrated, one in each of the above genera, with a revised key to males of species of three genera.

Key to Males of *Plapigella*

1. Style tapered distally 2
- Style enlarged distally (Nielson 1979, Fig. 495)
..... *elegans* (Spångberg)
- 2(1). Style with numerous setae distally 3
- Style without setae distally 4
- 3(2). Segment 10 with ventral process (Fig. 3)
..... *jessicae*, n. sp.
- Segment 10 without ventral process (Nielson
1983, Fig. 19) *pilosa* Nielson
- 4(2). Aedeagus with short, stubby setae about middle
of shaft (Nielson 1979, Fig. 500) *persoluta* Nielson
- Aedeagus with short to long, very fine setae
subdistally (Nielson 1979, Fig. 505)
..... *multispinosa* Nielson

Plapigella jessicae, n. sp.

Figs. 1–9

LENGTH.—Male 6.70–6.90 mm, female 7.60 mm.

General color ochraceous with fuscous transverse bands on forewings. Crown yellow in male, deep ochre in female; eyes rufous; pronotum rufous to light ochre; scutellum light ochre; forewings with 2 broad, fuscous, transverse bands, bands with small to large, light yellow to light ochraceous spots; face light yellow to light ochre. Similar to *pilosa* in

some genital characters and can be separated by the broad ventral process of segment 10.

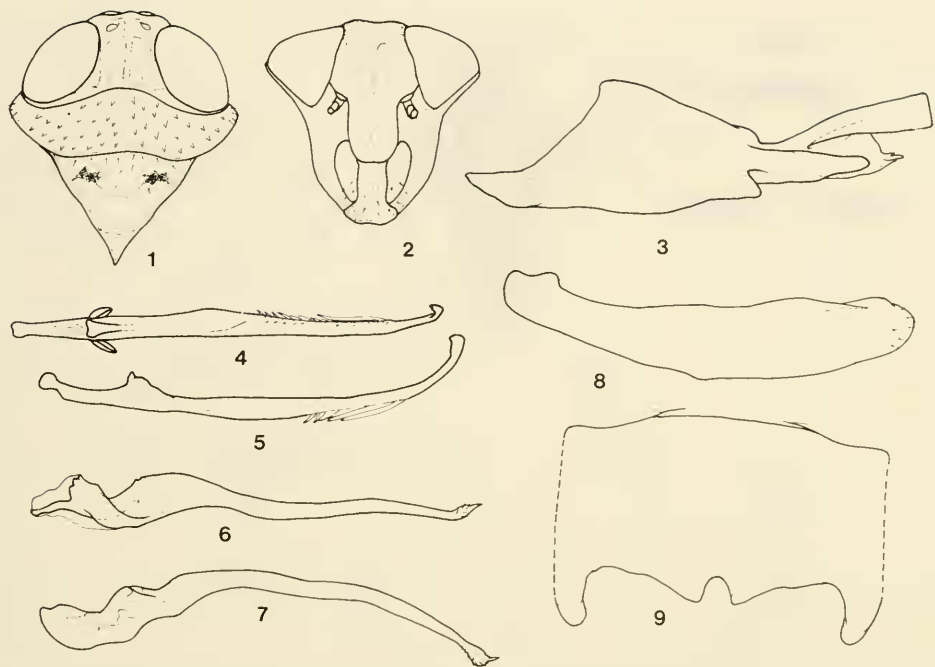
Head very broad and short, slightly narrower than pronotum (Fig. 1); crown narrow, width less than width of eyes, slightly produced beyond anterior margin of eyes, disc foveate; eyes large, semiglobular; pronotum very short, median length less than median length of crown, surface with numerous bullae; scutellum moderately large, length greater than median length of crown; forewings and venation typical; clypeus long and narrow, with prominent, median, longitudinal carina; clypellus long and narrow, lateral margins expanded distally (Fig. 2).

MALE.—Pygofer in lateral view with long, robust caudodorsal lobe; segment 10 with short, broad, ventral process, toothed distally (Fig. 3); aedeagus asymmetrical, somewhat tubular, with apex curved dorsally in lateral view (Fig. 5), and with numerous short to long, stout setae on ventral margin from near middle to near apex of shaft (Figs. 4, 5); style long and narrow in distal 3/4, slightly bulbous subapically, with short distal spine and numerous microsetae subapically (Figs. 6, 7); plate long and narrow, with few setae distally (Fig. 8).

FEMALE.—Seventh sternum large, about 2.5 times as long as preceeding segment, caudal margin broadly excavated on either side of middle and with median, short, toothed projection (Fig. 9).

HOLOTYPE (male).—BRAZIL: Amazonas, Manaus, 60 km N Reserva Campinas, 14.I.1977, Norman D. Penny (INPA). Allotype (female): BRAZIL: Est. Aml., Km 134,

¹Monte L. Bean Life Science Museum, Brigham Young University, Provo, Utah 84602.



Figs. 1-9. *Plapigella jessicae*, n. sp.: 1, head, pronotum, and scutellum, dorsal view; 2, face, ventral view; 3, male pygofer, lateral view; 4, aedeagus, dorsal view; 5, aedeagus, lateral view; 6, style, dorsal view; 7, style, lateral view; 8, plate, ventral view; 9, female seventh sternum, ventral view.

En.(?), Am. (Amazonas), 10.VIII.1968, E. V. Silva & A. Faustino, #2854 (INPA). Paratypes (1 male): Manaus, Amazonas, 7.XII.1977, B. C. Ratcliffe (author's collection), 1 specimen (abdomen missing), Labesa (?), Amazonas, 27.V.1963, Dorqueira Antonio, #2416 (INPA).

REMARKS.—This species can be distinguished from all other known species of *Plapigella* by the prominent ventral process on segment 10. This species is named for my granddaughter, Jessica Larsen.

Key to Males of *Korsigianus*

- 1. Pygofer in lateral view with large, bladelike caudoventral process (Fig. 12); style very short and broad, without processes (Figs. 15, 16) *christopherei*, n. sp.
- Pygofer in lateral view with very narrow, spine-like caudoventral process (Nielson 1979, Fig. 1268); style very long and narrow, with lateral process (Nielson 1979, Fig. 1270) *exoptatus* (Walker)

Korsigianus christopherei, n. sp.

Figs. 10-17

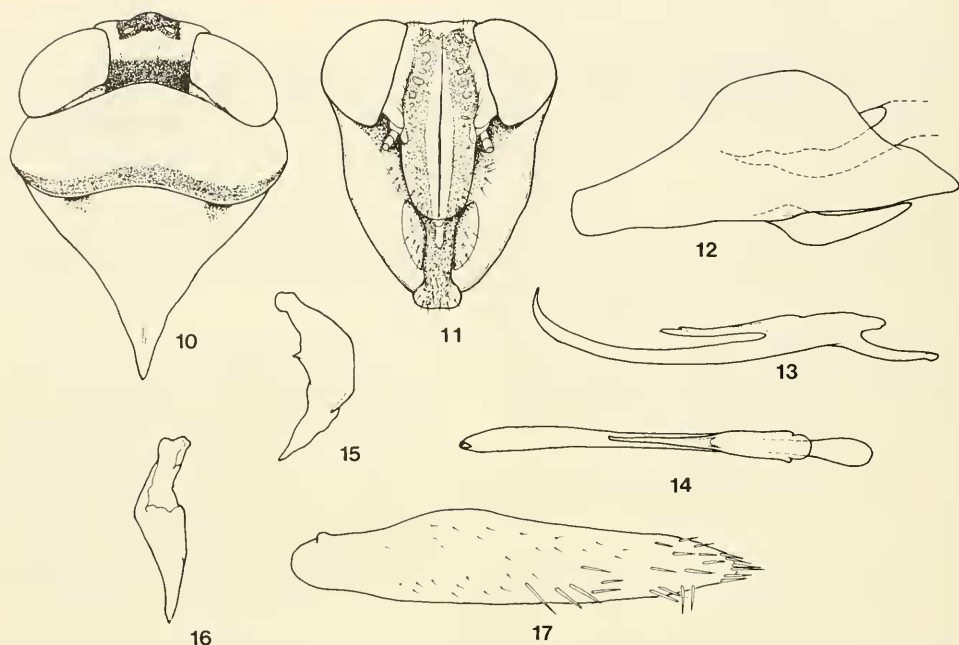
LENGTH.—Male 9.00 mm.

General color light tannish to yellow with fuscous to black markings. Crown pale yellow

with a black rectangular marking basally and black marking in middle of apex, continuing as parallel, black, longitudinal stripes on clypeus and clypellus; pronotum deep yellow except for narrow, transverse, black band basally; scutellum deep tannish suffused with light fuscous markings along anterior margin; forewings translucent except for transverse, subdistal, fuscous band and distal fuscous apex, veins black. This species is remarkably similar to *exoptata* in color patterns but can be readily distinguished by genital characters described below.

Head broad and short, narrower than pronotum (Fig. 10); crown broad, about as wide as width of eyes, lateral margins slightly convergent basally; eyes large, semiglobular; pronotum large, median length about twice median length of crown; scutellum very large, median length greater than median length of pronotum; forewings and venation typical; clypeus long and narrow, with prominent, median, longitudinal earina; clypellus long and narrow, constricted subapically (Fig. 11).

MALE.—Pygofer in lateral view with broad, bladelike caudoventral process (Fig. 12); aedeagus slightly asymmetrical, with long



Figs. 10-17. *Korsigianus christopherei*, n. sp.: 10, head, pronotum, and scutellum, dorsal view; 11, face, ventral view; 12, male pygofer, lateral view; 13, aedeagus, lateral view; 14, aedeagus, dorsal view; 15, style, lateral view; 16, style, dorsal view; 17, plate, ventral view.

ventral process curved dorsad in lateral view (Fig. 13), aedeagal shaft dorsal, reaching to about midlength of ventral process, gonopore subapical (Figs. 13, 14); style short, triangulate (Figs. 15, 16); plate long, narrow, with numerous setae on surface (Fig. 17).

FEMALE.—Unknown.

HOLOTYPE (male).—BRAZIL: Reserva Ducke, Manaus, Amazonas, 29.XII.1976, N. D. Penny (INPA).

REMARKS.—Two species are known in the genus. From *exoptata*, which is known from Peru and Guyana, *christopherei* can be easily distinguished by the very short, triangulate style and the broad, bladelike caudoventral process of the pygofer. I name this species for my grandson, Christopher Scott Checketts.

Jikradia infula, n. sp.

Figs. 18-23

LENGTH.—Male 8.00 mm.

General color dark fuscous with 2 broad, ochraceous, transverse bands on forewings; crown deep ochraceous; eyes rufous; pronotum and scutellum black; clypeus ochraceous in anterior half, black posteriorly. Similar to *olitoria* (Say) in male genital characters but with distinctive color patterns.

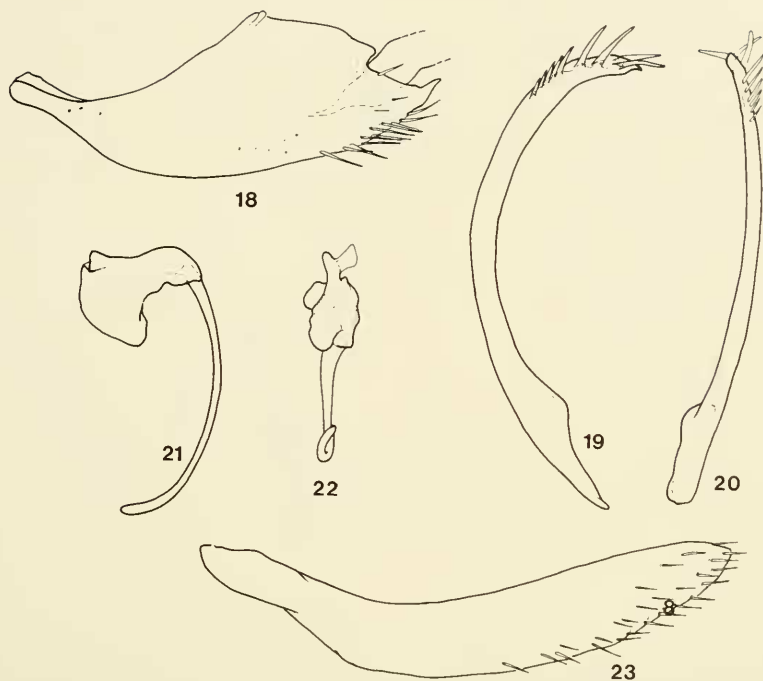
Head distinctly narrower than pronotum; crown broad, width greater than width of eyes, produced slightly beyond anterior margin of eyes; eyes large, semiglobular; pronotum moderately large, median length greater than median length of crown; scutellum with median length much greater than median length of pronotum; forewings and venation typical; clypeus long and narrow, with prominent, median, longitudinal carina; clypellus narrow, lateral margins expanded distally.

MALE.—Pygofer in lateral view with short caudodorsal lobe (Fig. 18); aedeagus asymmetrical, long, tubular, and curved dorsally in lateral view (Fig. 19), with several short to long, stout setae near ventral margin in distal 1/5 (Figs. 19, 20), gonopore near apex; style with long, narrow apophysis (Figs. 21, 22); plate long and narrow, with numerous short setae in distal half (Fig. 23).

FEMALE.—Unknown.

HOLOTYPE (male).—MEXICO: Guerrero, 22 mi N Chilpancingo, 24.VIII.1958, H. F. Howden (CNC).

REMARKS.—This species has remarkable color patterns unlike any other known species of *Jikradia*. The two broad, yellow to



Figs. 18–23. *Jikradia infula*, n. sp.: 18, male pygofer, lateral view; 19, aedeagus, lateral view; 20, aedeagus, ventral view; 21, style, lateral view; 22, style, dorsal view; 23, plate, ventral view.

ochraceous, transverse bands on the forewings will readily distinguish it from all other species. The size and arrangement of the aedeagal setae will also separate the species from *olitoria*, its nearest relative.

Key to Males of *Onblavia*

1. General color flavous; aedeagus with numerous long setae along middle of shaft (Nielson 1979, Fig. 1242) *flavocapitata* Nielson
- General color black, aedeagus with 2 long setae subapically (Figs. 25, 26) *freytagi*, n. sp.

Onblavia freytagi, n. sp.

Figs. 24–29

LENGTH.—Male 7.20 mm, female 8.00–8.30 mm.

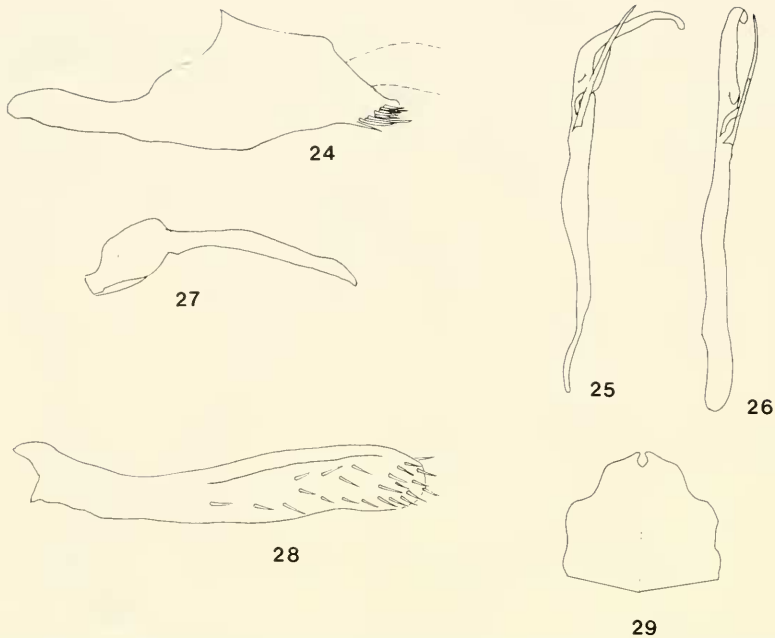
General color black except for yellow to ochraceous along costa of forewings and most of face in female, more deeply marked in male; eyes rufous. Similar to *flavocapitata* but with different color and male aedeagal structures.

Head distinctly narrower than pronotum, anterior margin rounded; crown broad, about as wide as width of eyes, lateral margins slightly convergent basally, slightly produced

beyond anterior margin of eyes; eyes large, subglobular; pronotum short, median length less than median length of crown; scutellum large, length to basal angle much greater than median length of pronotum; forewings and venation typical; clypeus long and somewhat broad, with median, longitudinal carina; clypellus long and narrow, apex expanded laterally.

MALE.—Pygofer in lateral view with small lobe arising mesally on caudodorsal margin (Fig. 24); aedeagus asymmetrical, long, tubular, gradually attenuated toward apex, abruptly curved dorsally in distal 1/3 and again at apex in lateral view (Fig. 25), with 2 long, setaelike spines of unequal length distad of middle on ventral margin of shaft, spines directed distally, gonopore lateral near base of spines (Figs. 25, 26); style with long, nearly flat apophysis (Figs. 27); plate long and very narrow, with numerous coarse setae in distal half (Fig. 28).

FEMALE.—Seventh sternum large, about 3 times as long as preceeding segment, caudal margin produced in middle third, notched distally (Fig. 29).



Figs. 24–29. *Onblavia freytagi*, n. sp.: 24, male pygofer, lateral view; 25, aedeagus, lateral view; 26, aedeagus, ventral view; 27, style, lateral view; 28, plate, ventral view; 29, female seventh sternum, ventral view.

HOLOTYPE (male).—VENEZUELA: Laguna de los Cedros, near Bocund-Trujillo, 1,200 m, 12.VI.1986, P. H. Freytag & M. A. Gaini (UKL). Paratypes (3 females), same data as holotype (UKL, author's collection).

REMARKS.—Two known species in the genus occur only in Venezuela. From *flav-ocapitata*, to which it is similar in aedeagal characters, *freytagi* can be separated by the presence of 2 setaelike spines distad of middle of shaft. I dedicate this species to Dr. Paul H. Freytag, University of Kentucky, for his fine work on Neotropical leafhoppers and for his part in collecting material of this species.

Stalolidia crista, n. sp.

Figs. 30–36

LENGTH.—Male 8.90–9.00 mm.

General color deep fuscous with 2 broad, translucent, irregular, transverse bands on forewings, veins with small yellow spots, small translucent spots in apical 1/3; crown light tan; eyes rufous.

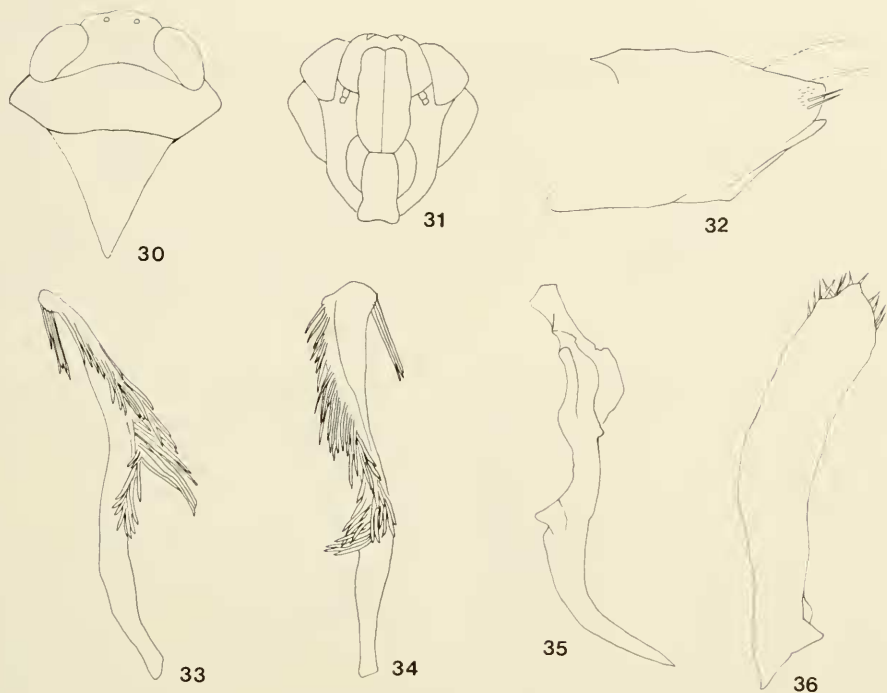
Head distinctly narrower than pronotum; crown broad, subquadrate; eyes large, elongate-ovoid (Fig. 30); pronotum large, anterior margin broadly rounded; scutellum very large; forewing broad, 5 apical cells and 3

anteapical cells present, outer one closed, appendix well developed; clypeus long and moderately broad, with prominent, median, longitudinal carina (Fig. 31); clypellus long, slightly tumid basally.

MALE.—Pygofer with short, broad, caudo-ventral lobe, small mesal lobe on caudodorsal margin (Fig. 32); segment 10 moderately long and broad, without ventral processes; aedeagus asymmetrical, very long, sinuate, somewhat compressed dorsoventrally at apical 1/5 in lateral view, with numerous long setae arranged in a sinuate row basad of middle of shaft near lateral margin and extending to apex, several setae on opposite lateral margin near apex, setae directed laterobasally (Figs. 33, 34), gonopore cryptic near middle of shaft on lateral margin; style very long, broadly curved, and pointed apically in lateral view, with short, triangulate lobe near middle of inner margin (Fig. 35); plate long, narrow, acutely angled distally, with few fine setae distally (Fig. 36).

FEMALE.—Unknown.

HOLOTYPE (male).—BRAZIL: Rondonia, 7 km E Costa Marques, 11–13.IV.1987, Malaise trap, T. Klein (OSU). Paratype (1 male),



Figs. 30–36. *Stalolidia crista*, n. sp.: 30, head, pronotum, and scutellum, dorsal view; 31, face, ventral view; 32, male pygofer, lateral view; 33, aedeagus, lateral view; 34, aedeagus, ventral view; 35, style, lateral view; 36, plate, ventral view.

same data as holotype except 30.VII.1988 (author's collection).

REMARKS.—This species keys to couplet 7 and no further in Nielson (1979). It is similar to *stali* Nielson in male genital characters but can be distinguished by the narrower caudal margin of the pygofer, broader aedeagus at distal 1/3 in ventral view, triangulate lobe on the inner margin of style, and the uninterrupted row of setae on the aedeagal shaft. Twelve species are now known in the genus, all from South America.

NOTES.—The Malaise trap used by various collectors for collecting insects in the Neotropical region has been very useful for capturing males of coelidiine leafhoppers. Among 12 specimens collected in Brazil by Terry Klein, 11 were males, representing 3 genera and 4 species. These included *Stalolidia stali* Nielson, *Stalolidia crista*, n. sp., *Dicodia* n. sp., and *Docalidia meditabunda* (Spångberg).

ACKNOWLEDGMENTS

Material described in this paper was kindly furnished by Dr. Norman Penny, California Academy of Sciences, San Francisco, and formerly with the Instituto Nacional de Pesquisas da Amazonia (INPA); Dr. K. G. A. Hamilton, Agriculture Canada, Ottawa (CNC); Dr. Paul H. Freytag, University of Kentucky, Lexington (UKL); and Dr. Paul W. Oman, Oregon State University, Corvallis (OSU). To these colleagues I express my sincere gratitude. I thank Jeanette Price and Sun Young Kim for the excellent illustrations, and Dr. Oman for reviewing the manuscript and offering useful comments.

LITERATURE CITED

- NIELSON, M. W. 1979. A revision of the subfamily Coelidiinae (Homoptera: Cicadellidae). III. Tribe Teruliini. Pacific Insects Monograph 35. 329 pp., 1,282 figs.
- . 1983. New Neotropical species of teruline leafhoppers (Cicadellidae: Coelidiinae: Teruliini). J. Kansas Entomol. Soc. 56(3): 365–370.